Catalogue of American Amphibians and Reptiles.

JOHNSON, JERRY D. 1982. *Masticophis mentovarius.*

Masticophis mentovarius (Duméril, Bibron, and Duméril) Neotropical whipsnake

C[oryphodon mento-varius] Duméril, Bibron, and Duméril, 1854:187. Type-locality, "Mexique," restricted to "Tehuantepec, Oaxaca" by Smith and Taylor (1950:340). Two syntypes, Mus. Nat. Hist. Natur., Paris 3199 and 3331, both females, collector and date of collection unknown (examined by author).
Bascanion suboculare Cope, 1867:319. Type-locality, "between Coban and Clusec [corrected by Stuart, 1963:105, to Chisec], Guatemala." Two syntypes, U.S. Nat. Mus. 6753 and 6762, both females, collected by H. Hague, date of collection unknown (examined by author).
Bascanium mentovarium: Cope, 1879:71.
Coluber constrictor: Garman, 1884:42 (part).
Bascanion mentovarius: Bocourt, 1888:699.
Zamenis mentovarius: Boulenger, 1893:389.
Zamenis flavigularis: Günther, 1894:120 (part).
Bascanion flagelliforme: Dugès, 1896:481 (part).
Masticophis mentovarius: Ortenburger, 1923:2.
Coluber mentovarius: Dunn, 1940:118.

• CONTENT. Five subspecies are recognized: *mentovarius, centralis, striolatus, suborbitalis,* and *variolosus.*

• DEFINITION. *Masticophis mentovarius* is a whipsnake with 19 anterior dorsal scales (17 at midbody) reduced to 13 or 12 near the vent, seven or eight supralabials, 166 to 205 ventrals, and 95 to 123 subcaudals. Adult dorsal color in life is some shade of brown or gray with variable secondary patterns (unicolored, dark stripes, apical spots, or indistinct stripes and bands), but prominent pale stripes are never present. The chin and throat may or may not be spotted. Juveniles have either anterior banding or pale longitudinal stripes.

• DIAGNOSIS. *Masticophis mentovarius* can be distinguished from its closest relative, *M. flagellum* (in sympatric areas), by the following characters: supralabials number 7 (8 in *flagellum*), or if 8, no spots on the chin and throat (the chin and throat are spotted in *flagellum*).

• DESCRIPTIONS. The species was first reviewed by Ortenburger (1928) and later by Roze (1953). It was most recently reviewed by Johnson (1977), who studied variation in color and scutellation characters, reviewed the species' distribution, compared *M. mentovarius* with *M. flagellum,* and included in the species the taxon *striolatus* and its two subspecies. Additional descriptions of various subspecies are as follows: *M. m. mentovarius*—Hartweg and Oliver (1940), Smith (1941a), Kauffeld (1942), Woodbury and Woodbury (1944), Smith (1947), Taylor (1951), Werler and Smith (1952), and Alvarez del Toro (1960 and 1973); *M. m. centralis*—Smith (1942), Roze (1953 and 1966), and Lancini V. (1965); *M. m. striolatus*—Smith (1941a), Bogert and Oliver (1945), Zweifel and Norris (1955), and Hardy and McDiarmid (1969); *M. m. suborbitalis*—Smith (1942), Hellmich (1953), Roze (1953 and 1966), and Lancini V. (1965); *M. m. variolosus*—Slevin (1926), Smith (1943), and Zweifel (1960).

• ILLUSTRATIONS. Black and white photographs of adults of all subspecies, and for some juveniles, are in Johnson (1977). Other black and white photographs of adult *M. m. mentovarius* are in Ortenburger (1928) and Ditmars (1931). Lancini V. (1965) and Alvarez del Toro (1973) provided black and white illustrations of an adult *M. m. centralis* and a juvenile *M. m. mentovarius,* respectively. Adult and juvenile intergrades between *M. m. mentovarius* and *M. m. striolatus* are depicted (black and white) in Johnson (1977).

• DISTRIBUTION. *Masticophis mentovarius* occurs on both versants of México from southern Sonora and San Luis Potosí, south and eastward (including the Tres Marías Islands) to Honduras on the Atlantic versant and Panamá on the Pacific versant of Central America. The species is also found in northern South America on the Guajira Peninsula of Colombia and Venezuela, as well as in northcentral Venezuela and on Isla Margarita. The species seems to prefer tropical or subtropical semiarid to semimoist habitats (e.g., tropical deciduous forest, thorn forest, thorn scrub, desert scrub, and tropical savanna). One isolated record from eastern Chihuahua, México (Webb, 1960), is from desert grassland. Elevations inhabited by *M. mentovarius* range from sea level to over 2000 m (Johnson, 1977).

Since Johnson (1977) revised the species, two specimens representing range extensions have become available. A specimen of *M. m. striolatus,* in the University of Arizona Museum (UA 40078) from 5.2 mi. northeast of Santa Ana de Yecora, Sonora, México extends the range of the subspecies ca. 120 km northeastward from 11.5 km north of Obregón, Sonora. *Masticophis m. mentovarius* also occurs in northern Quintana Roo, México. There is a specimen in the University of Colorado Museum (UC 2815) from Puerto Juárez and I observed adult specimens (none were collected) in the vicinity of Cancún during July, 1978.

• FOSSIL RECORD. Langebartel (1953) reported fossil elements representing *M. mentovarius* from a Yucatán, México cave which were dated early post-Pleistocene.

• PERTINENT LITERATURE. The most recent comprehensive taxonomic and distributional work was by Johnson (1977). Most literature, other than titles reported herein in other sections, deal with distributional data and are as follows: total range—Amaral (1929), Werner (1929), and Wilson (1973); Belize—Henderson and Hoevers (1975) and Neill and Allen (1959); El Salvador—Mertens (1952); Guatemala—McCoy (1966) and Stuart (1935, 1948, and 1963); Honduras—Dunn and Emlen (1932); México—Booth (1959), Davis and Smith (1953), Dixon, Sabbath, and Worthington (1962), Duellman (1958, 1961, and 1965), Fugler and Dixon (1961), Gaige (1936), Grant and Smith (1960), Hall (1951), Liner (1964), Oliver (1937), Peters (1954), Pianka and Smith (1959), Schmidt and Shannon (1947), Smith and Lynch (1967), Smith and Van Gelder (1955), Webb and Fugler (1957), and Zweifel (1959); Panama—Dunn (1933); Venezuela—Boettger (1898), Brongersma (1940), Jan (1863a), and Meek (1910).

Reproduction in *M. mentovarius* was discussed by Werler (1951) and Alvarez del Toro (1960), and Wilson (1970) commented on similarities between *M. mentovarius* and *M. flagellum.* Brattstrom (1955) discussed the phylogenetic relationships of *M. mentovarius* within the genus *Masticophis.*

• REMARKS. The common name, Neotropical whipsnake, was proposed by Johnson (1977). *Masticophis mentovarius* is the only species of *Masticophis* that occurs primarily within the Neotropical biogeographic region.

• ETYMOLOGY. The name *mentovarius* is derived from two Latin terms, *mento* (=chin) and *varia* (=spotting), which refers to the spotting on the chin of the nominal subspecies; *centralis* comes from the Greek root *centrum* (=center) and the Latin suffix *-alis* (=pertaining to), in reference to the subspecies' known geographic range at the time of its description; *striolatus* comes from the Latin root *strio* (=furrow or groove) and the Latin suffix *-lata* (=to bear), which probably refers to the streaking or striping of the dorsum; *suborbitalis* comes from the Latin terms *sub* (=below), *orbit* (=circle, in reference to the eye), and the suffix *-alis* (=pertaining to), which refers to the single subocular supralabial; and *variolosus* is from the Latin root *vario* (=spotted) and the Latin suffix *-osus* (=applying word as an adjective), which refers to the spotting on the dorsum.

1. *Masticophis mentovarius mentovarius* (Duméril, Bibron, and Duméril)

C[oryphodon mento-varius] Duméril, Bibron, and Duméril 1854:187. See species account.
Coluber constrictor mentovarius: Garman, 1884:42.
Masticophis mentovarius mentovarius: Smith, 1942:87.
Coluber mentovarius mentovarius: Kauffeld, 1942:177.
Coluber (Masticophis) mentovarius mentovarius: Roze, 1953:116.

• DEFINITION. A subspecies with brown to gray-brown dorsal color. The venter is immaculate white or cream with variable amounts of spotting on the chin and anterior ventral scales. The supralabials number 7 on each side. Juveniles have a brown dor-

sal coloration with 2 (rarely one) pale longitudinal stripes on the neck between the first and second and fourth and fifth scale rows, respectively.

• REMARKS. Johnson (1977) detailed a large area of intergradation between *M. m. mentovarius* and *M. m. striolatus* from southern Jalisco to central Oaxaca, México. Intergrades possess 8 supralabials and traces of juvenile bands (*striolatus* characters) on the one hand, and spotting on chin and anterior ventral scales and traces of pale longitudinal stripes on juveniles (*mentovarius* characters) on the other.

Smith and Taylor (1945) relegated *Liophis varia* (*L. wagleri varia*, Smith and Smith, 1976) to the synonymy of *M. m. mentovarius*, based on Jan's (1863b) description. Examination of the type-specimen, Mus. Nat. Hist. Natur., Paris 7502, revealed that it is not a *M. m. mentovarius*; its identity has not yet been determined.

2. *Masticophis mentovarius centralis* (Roze)

Coluber (Masticophis) mentovarius centralis Roze, 1953:117. Type-locality, "Maicao, Guajira, Colombia." Holotype, U.S. Nat. Mus. 115107, juvenile male, found in the crop of a *Buteo albicaudatus* by A. Wetmore and M. A. Carriker, Jr., 16 April 1941 (examined by author).
Masticophis mentovarius suborbitalis: Smith, 1942:86 (part).
Coluber mentovarius suborbitalis: Dunn, 1944:218 (part).
Masticophis mentovarius centralis: Peters and Orejas-Miranda, 1970:189.

• DEFINITION. A subspecies with a pale brown dorsum containing many indistinct and irregular stripes and bands, or spots. Supralabials number 7 on both sides. Dorsal scales are sometimes reduced to 12 (13 is the usual number for the species). Juveniles are like adults except the anterior banding is much more pronounced. The chin and anterior ventral scales are not spotted.

• REMARKS. Only two adult specimens from Panamá were examined by Johnson (1977) and these differ markedly in dorsal color pattern (slightly spotted instead of banded and striped) from Colombian specimens. Examination of more specimens is needed to completely assess the taxonomic status of the Panamanian populations.

3. *Masticophis mentovarius striolatus* (Mertens)

Coluber striolatus Mertens, 1934:190. Substitute name for *Bascanion lineatus* Bocourt, 1890:700, a junior secondary homonym of *Coluber lineatus* Linnaeus (=*Lygophis lineatus*). Type-locality, "Colima," México, restricted to "Presidio de Mazatlán, Sinaloa" by Smith and Taylor (1950:343) who were apparently unaware of the syntypes in the Paris Museum. Lectotype, Mus. Nat. Hist. Natur., Paris 1648, adult female, collected by A. A. Dugès in 1868 (examined by author).
Zamenis lineatus: Boulenger, 1893:338.
Zamenis flavigularis: Günther, 1894:120 (part).
Bascanion flagelliforme: Dugès, 1896:481 (part).
Masticophis lineatus: Ortenburger, 1923:2 (part).
Masticophis flagellum striolatus: Smith, 1941a:369 (part).
Masticophis taeniatus striolatus: Inger and Clark, 1943:143.
Coluber striolatus striolatus: Bogert and Oliver, 1945:362.
Masticophis flagellum lineatus: Smith and Taylor, 1945:95.
Masticophis lineatus lineatus: Smith and Van Gelder, 1955:248.
Masticophis striolatus striolatus: Zweifel and Norris, 1955:242.
Masticophis striolatus: Hardy and McDiarmid, 1969:184.
Masticophis mentovarius striolatus: Johnson, 1977:287.

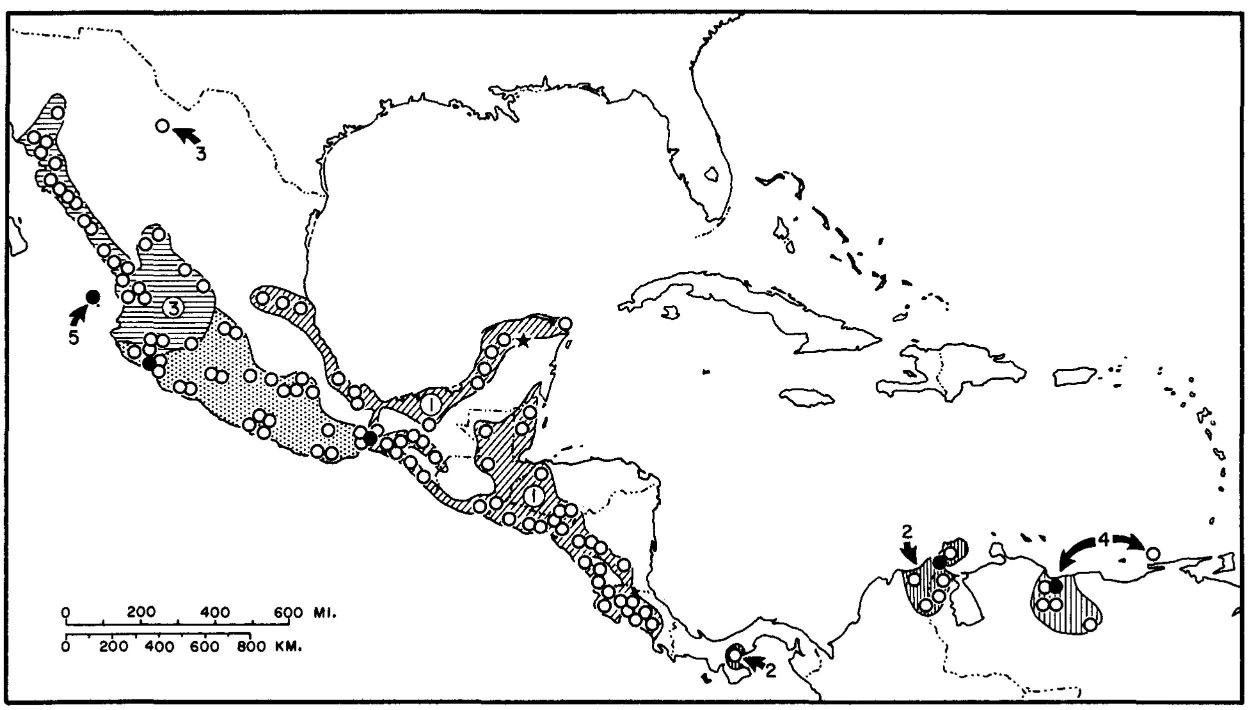
• DEFINITION. A subspecies with adult dorsal color of blue-gray to brown, with or without dark longitudinal stripes or spots. The ventral surface is immaculate white or cream. The chin and anterior ventrals are not spotted. Supralabials number 8 and ventrals usually number less than 190. Juveniles have pale transverse bands on the anterior portion of the body.

• REMARKS. Johnson (1977) designated Mus. Nat. Hist. Natur., Paris 1648 lectotype of the subspecies. There were originally three syntypes designated: two, Mus. Nat. Hist. Natur., Paris 1519 and 1520, from "Izucar" (probably Izúcar de Matamoros, Puebla, México), and the lectotype from Colima. All three specimens are from an area of intergradation between *M. m. mentovarius* and *M. m. striolatus*. The Colima specimen is from the extreme northern edge of this area and, therefore, most closely resembles individuals of the latter subspecies.

4. *Masticophis mentovarius suborbitalis* (Peters)

Spilotes corais var. *suborbitalis* Peters, 1868:641. Type-locality, "Caracas, Venezuela." Holotype, Zool. Mus. (Berlin) 3010, collector and date of collection unknown (not examined by author).
Drymarchon corais corais: Smith, 1941b:472.
Masticophis mentovarius suborbitalis: Smith, 1942:96 (part).
Coluber (Masticophis) mentovarius suborbitalis: Roze, 1953:9.

• DEFINITION: A subspecies with an adult dorsal color that is some shade of brown, with or without scattered dark spots or



MAP. Solid circles mark type-localities; open circles indicate other records. Star marks Recent fossil locality.

stippling. The ventral surface is immaculate white or cream, with or without a few spots on the labials and chin. Supralabials number 7. The juvenile pattern is similar to adult except for the presence of 4 or 5 pale longitudinal stripes on the neck.

5. *Masticophis mentovarius variolosus* Smith

Masticophis flagellum variolosus Smith, 1943:448. Type-locality, "María Magdelena Island," Tres Marías Islands, Nayarit, México (corrected by Zweifel, 1960, to "María Madre Island"). Holotype, U.S. Nat. Mus. 24681, the skin of an adult male, collected by E. W. Nelson, 12 May 1897 (examined by author).
Bascanion lineatus: Stejneger, 1899:70.
Drymobius boddaertii: Slevin, 1926:201 (part).
Masticophis lineatus: Ortenburger, 1928:123 (part).
Masticophis mentovarius variolosus: Johnson, 1977:287.

• Definition. A subspecies with an adult dorsal color of brownish gray, with one or two prominent dark spots on each scale which may become elongated posteriorly, giving a streaked appearance. Supralabials number 8 and ventral scales usually number more than 190. The juveniles are similar to adults except for the presence of pale transverse bands on the neck.

• Remarks. This form was relegated to the synonymy of *M. lineatus* (=*M. m. striolatus*) by Zweifel (1960), however, Johnson (1977) showed distinct differences between the two forms (more ventral scales and bolder dorsal spots in *M. m. variolosus*).

Comment

Geographic and individual variation of *M. mentovarius* in México and Central America (except Panamá) is well known and documented by many available preserved specimens. More individuals from Panamá and South America need to be examined to completely assess character variation within the entire species.

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